

1)  $\frac{y+3}{y} - \frac{4}{5} = \frac{7}{10}$  10y LCD

$$10(y+3) - 8y = 7y$$

$$10y + 30 - 8y = 7y$$

$$2y + 30 = 7y$$

$$\begin{array}{r} 2y + 30 = 7y \\ -2y \quad -2y \\ \hline 30 = 5y \\ \frac{30}{5} = \frac{5y}{5} \\ 6 = y \end{array}$$

4)  $\frac{2}{4x-5} = \frac{3}{10x}$  10x(4x-5) LCD

$$20x = 3(4x-5)$$

$$20x = 12x - 15$$

$$\begin{array}{r} 20x = 12x - 15 \\ -12x \quad -12x \\ \hline 8x = -15 \\ \frac{8x}{8} = \frac{-15}{8} \\ x = -\frac{15}{8} \end{array}$$

7)  $3 \cdot \frac{1}{8} + \frac{a-2}{3a-1} = \frac{2}{6}$  24(3a-1) LCD

$$3(3a-1) + 24(a-2) = 8(3a-1)$$

$$9a - 3 + 24a - 48 = 24a - 8$$

$$33a - 51 = 24a - 8$$

$$\begin{array}{r} 33a - 51 = 24a - 8 \\ -24a \quad -24a \\ \hline 9a - 51 = -8 \\ +51 \quad +51 \\ \hline 9a = 43 \\ \frac{9a}{9} = \frac{43}{9} \\ a = \frac{43}{9} \end{array}$$

2)  $\frac{3}{y} + \frac{1}{2y} = \frac{4}{5}$  10y LCD

$$30 + 5 = 8y$$

$$\frac{35}{8} = \frac{8y}{8}$$

$$\frac{35}{8} = y$$

6)  $\frac{x}{6} = \frac{7x-2}{10} - \frac{3}{5}$  30 LCD

$$5x = 3(7x-2) - 18$$

$$5x = 21x - 6 - 18$$

$$5x = 21x - 24$$

$$\begin{array}{r} 5x = 21x - 24 \\ -21x \quad -21x \\ \hline -16x = -24 \\ \frac{-16x}{-16} = \frac{-24}{-16} \\ x = \frac{3}{2} \end{array}$$

10)  $\frac{3x-5}{x} = 4 \cdot x$

$$3x - 5 = 4x$$

$$\begin{array}{r} 3x - 5 = 4x \\ -3x \quad -3x \\ \hline -5 = x \end{array}$$

3) (This is the only reminder on sheet, don't need LCD.)

$$\frac{x}{14} = \frac{13}{71}$$

$$x = 26$$

7)  $\frac{8}{9} = \frac{k}{27}$

$$24 = k$$

11)  $\frac{5}{3y+4} = \frac{7}{-2y}$  2y(3y+4) LCD

$$10y = 7(3y+4)$$

$$10y = 21y + 28$$

$$\begin{array}{r} 10y = 21y + 28 \\ -21y \quad -21y \\ \hline -11y = 28 \\ \frac{-11y}{-11} = \frac{28}{-11} \\ y = -\frac{28}{11} \end{array}$$

4)  $1 - \frac{r}{r-5} = \frac{2}{3}$  3(r-5) LCD

$$3(r-5) - 3r = 2(r-5)$$

$$3r - 15 - 3r = 2r - 10$$

$$-15 = 2r - 10$$

$$\begin{array}{r} -15 = 2r - 10 \\ +10 \quad +10 \\ \hline -5 = 2r \\ \frac{-5}{2} = \frac{2r}{2} \\ -\frac{5}{2} = r \end{array}$$

8)  $\frac{2x+3}{x-4} = \frac{5}{7}$  7(x-4) LCD

$$7(2x+3) = 5(x-4)$$

$$14x + 21 = 5x - 20$$

$$\begin{array}{r} 14x + 21 = 5x - 20 \\ -5x \quad -5x \\ \hline 9x + 21 = -20 \\ -21 \quad -21 \\ \hline 9x = -41 \\ \frac{9x}{9} = \frac{-41}{9} \\ x = -\frac{41}{9} \end{array}$$

12)  $\frac{x}{18} = \frac{5}{6}$

$$x = 15$$